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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,863	08/25/2003	Tae Hwan Jung	1594.1274	1800

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EXAMINER

AYRES, TIMOTHY MICHAEL

ART UNIT	PAPER NUMBER
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3637

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/646,863

Applicant(s)

JUNG, TAE HWAN

Examiner

Timothy M. Ayres

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 13 and 41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear how the separate member with the grooves is coupled to the movable body.

Claims 1-17 and 18-27 will be treated as a combination of the control device and the refrigerator since the structures of the refrigerator are recited positively in these claims.

### ***Claim Rejections - 35 USC § 103***

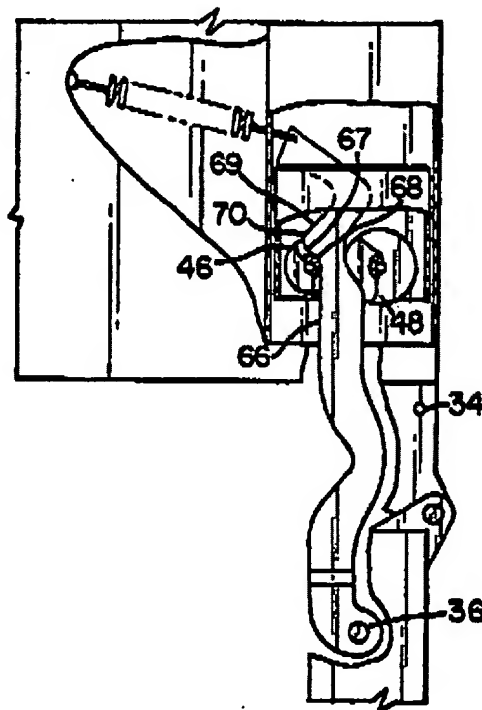
3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 2, 6, 7-17, 28, 29, and 34-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,220,747 to Cherry in view of U.S. Patent 6,711,778 to Sparkman.

5. Cherry '747 discloses a door control device for a refrigerator (10) having a refrigerator door (14). A movable body (38) is coupled to the refrigerator door (14). Wherein the movable body (38) is arranged to move in opposite directions in accordance with opening and closing actions of the refrigerator door. A control unit (54, 54a) controlling an opposite directional movement of the movable body in a multi-stage manner.



Cherry '747 Figure 7

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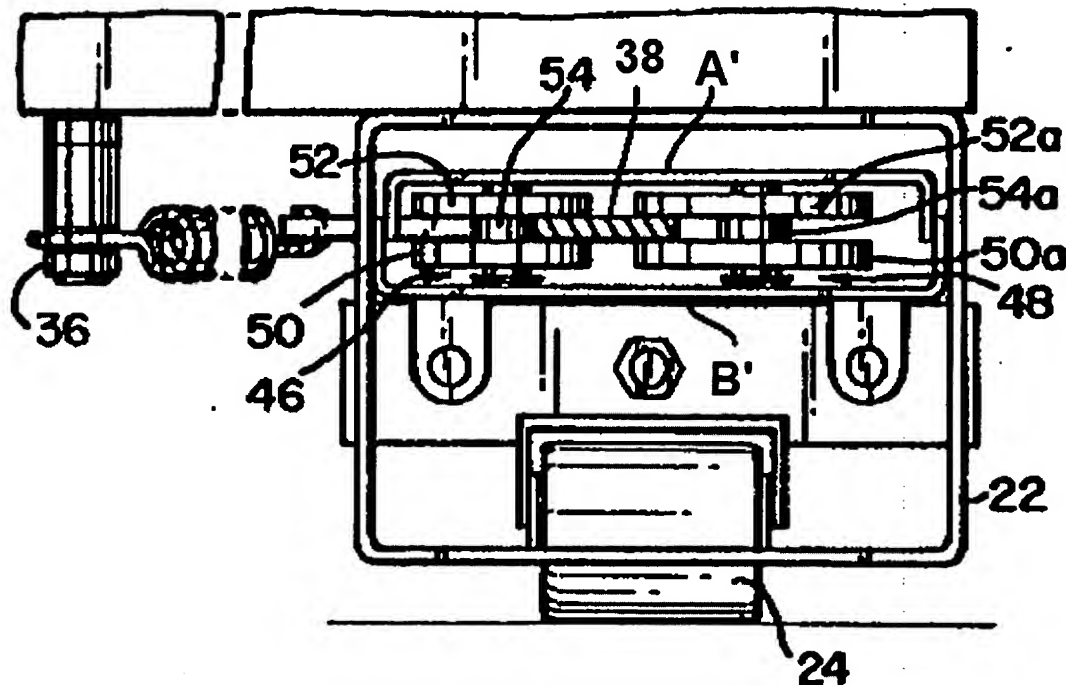
6. Regarding claims 14 and 28, the refrigerator (10) is defined as a cabinet (11) with a storage compartment (12). The door (14) is hinged to the cabinet (11) to close the storage compartment (12). The device is disposed in a leg casing (22) at a lower portion of the refrigerator (10) as best shown in figure 1.

7. Regarding claims 2 and 29, a guide element (50,52,50a, 52a, A', B') contains the movable body (38) and guides the opposite directional movement of the movable body.

8. Regarding claims 6 and 34, the movable body (38) is provided with a plurality of grooves (65,68) formed along a longitudinal side surface.

9. Regarding claims 7 and 35, the control unit (54,54a) comprises a locking unit (54, 54a) selectively engaging with the plurality of grooves provided to the movable body.

10. Regarding claims 12 and 40, the grooves (65,68) of the movable body (38) are smoothly curved to form a waved configuration.



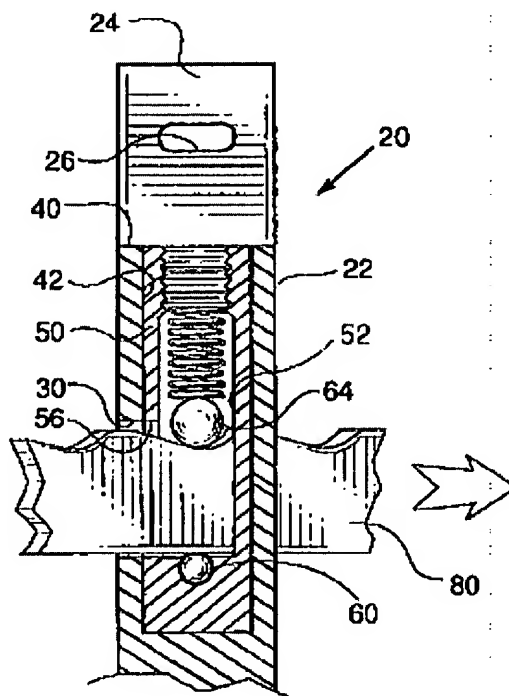
Cherry '747 Figure 4

11. Cherry '747 does not disclose expressly a plurality of predetermined position between a closed position and a fully open position, the grooves formed on a separate member coupled to a longitudinal side surface of the moveably body, the details of the locking unit, and the control unit in a control chamber and the location of the chamber.

12. Sparkman '778 discloses a locking unit (64) selectively engaging with the plurality of grooves (88,90,92, 94) provided to the moveable body (80) to hold the door (4) in various open positions. An elastic member (66) elastically supports the locking unit (64). The locking unit (64) comprises a retractable roller (64) selectively seated in the grooves (88,90,92) of the movable body (80) during a movement of the movable body (80). The roller (64) is perpendicular placed relative to the movably body (80), and

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wherein the roller (64) is elastically retractable. The control unit (64,66) is disposed in a control chamber (50), which is defined in a separate member (22) at a predetermined position on the sidewall (2) and is integrally fastened to the sidewall (2) with screw (28). At the time of the invention it would have been obvious for a person of ordinary skill in the art to modify the device of Cherry by adding one more groove to the moveable body and by adding the locking unit and control chamber of Sparkman to provide a plurality of stop positions.



Sparkman '778 Figure 2

13. Regarding claims 10 and 38, it would have been obvious matter of design choice to modify Sparkman's locking unit by having a roller bracket between the elastic member and the roller, since the applicant has not disclosed that having a roller bracket

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solves any stated problem or is for any particular purpose and it appears that the locking unit would perform equally well without a roller bracket.

14. Regarding claims 13 and 41, It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the grooves on a separate member, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

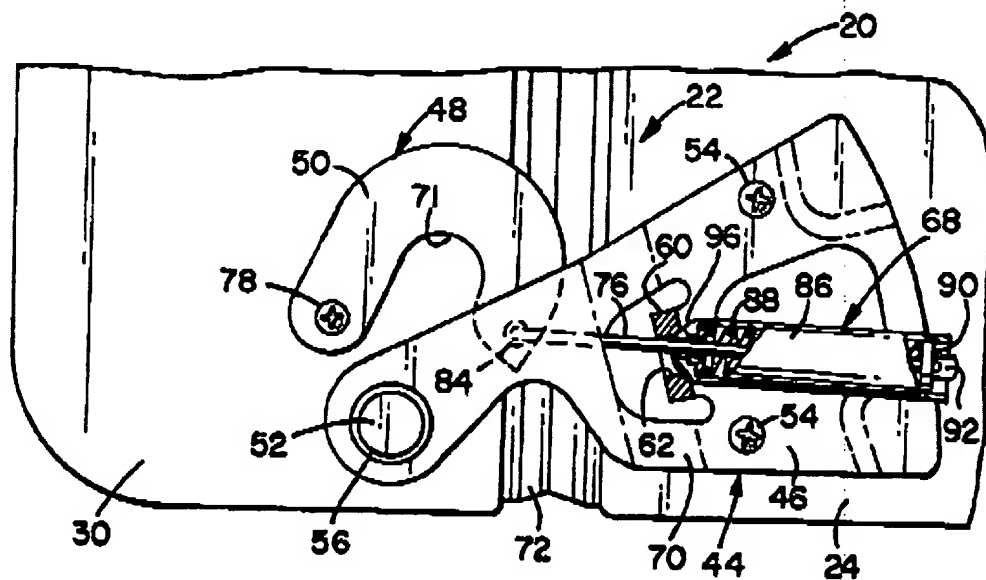
15. Regarding claims 15 and 42, It is obvious that the control chamber is perpendicularly defined at a sidewall of the leg casing since the roller is perpendicular to the movable bar in Cherry, the control chamber is perpendicular to the roller in Sparkman, and the casing is perpendicular to the movable bar in Cherry then therefore the control chamber will be perpendicular to the leg casing when the Cherry is modified by Sparkman.

16. Claims 3-5 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,220,747 to Cherry in view of U.S. Patent 6,711,778 to Sparkman as applied to claim 1 and 28 above, and further in view of U.S. Patent 5,896,619 to Koopman. Cherry '747 in view of Sparkman discloses every element as claimed and discussed above and Cherry also discloses a hinge bracket (28) mounted to the door. Cherry '747 in view of Sparkman does not disclose expressly a link bar. Koopman '619 discloses a link bar (50) hinged at a first end (84) thereof to an end of the movable body (76), and connected at a second end (80) thereof to the refrigerator door (30). The link bar (50) is hinged at the refrigerator door (30). The link bar (50) is further hinged to the



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refrigerator door (30) in a position spaced apart from the rotating axis (52) of the refrigerator door (30) by a predetermined distance in a radial direction from the rotating axis (52). At the time of the invention it would have been obvious for a person of ordinary skill in the art to take the device of Cherry and add the link bar of Koopman so that the door can achieve a greater range of motion.

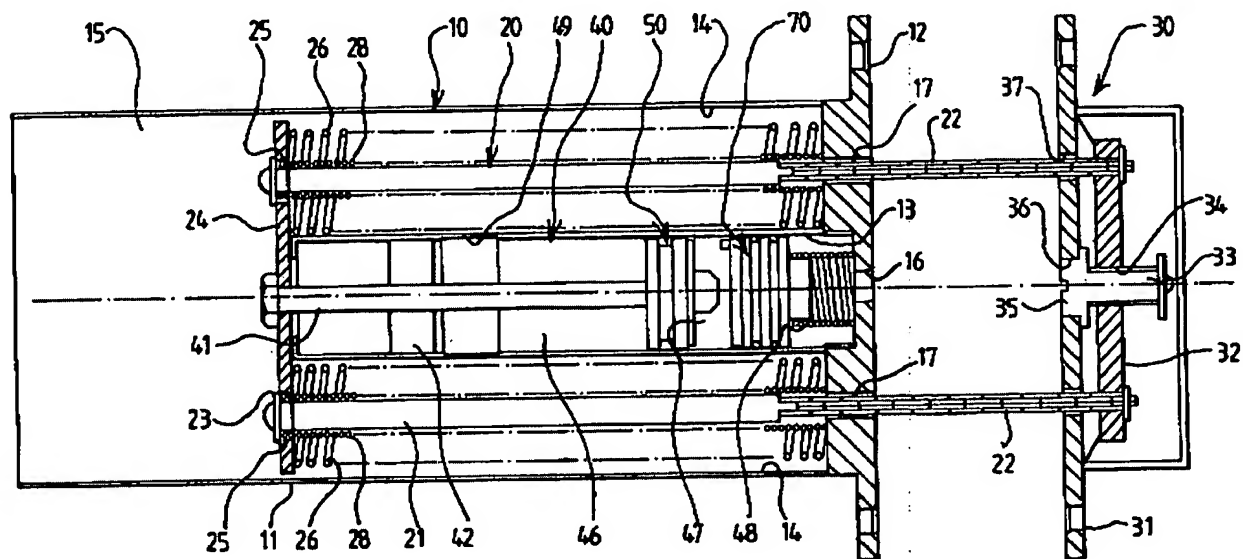


Koopman '619 Figure 3

17. Claims 18-27 and 45-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,220,747 to Cherry in view of U.S. Patent 6,711,778 to Sparkman as applied to claims 1 and 28 above, and further in view of U.S. Patent 5,706,551 to Jeynes. Cherry '747 in view of Sparkman discloses every element as claimed and discussed above and Cherry also discloses tension spring (56) attached to the rear of the moveable body (38). Cherry '747 in view of Sparkman does not disclose expressly a dampening unit. Jeynes '551 discloses a dampening unit (10) to close a

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door. The dampening unit (10) uses an elastic support unit in the means of two parallel compression springs (26) to drive the shafts (22) into the body. The compression springs are connected to a support member (30) by shafts (22). The dampening unit (10) uses a hydraulic damper (40) to dampen the rate of rearward movement during closing action, thus retarding energy generated from the door. At the time of the invention it would have been obvious for a person of ordinary skill to take the device of Cherry and replace the tension spring with the dampening unit of Jeynes by attaching the support member to the moveable body so that the closure rate of the door is controlled.



Jeynes '551 Figure 1

18. Regarding claims 25-27, 52, and 53, it would have been obvious matter of design choice to modify the location of Cherry's tension spring or the dampening unit when modified by Jeynes, by having it on the inner surface of the rear wall of the leg casing,

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since the applicant has not disclosed that having the dampening unit inside the leg casing solves any stated problem or is for any particular purpose and it appears that the dampening unit once modified by Jeynes would perform equally well with the unit outside of the casing.

### ***Response to Arguments***

19. Applicant's arguments filed 11/28/05 have been fully considered but they are not persuasive. In regards to the argument that Sparkman and Cherry teach away from one another. In the applicant's remarks on page 16, the applicant states that "...the very essence of the Cherry disclosure, which is biasing the door toward either an open or closed position depending on the angle of the door." The applicant is incorrect in making this statement; the door of Cherry also has a stable angle of the door at approximately 90 degrees (Col. 4, lines 12-15). It is in having this stable angle that is the one of the essences of the Cherry disclosure, along with the having a biased closure and biased open means to allow for use of the refrigerator when the user's hands are full (Col. 1, lines 9-30). Therefore Cherry is teaching a plurality of stop positions (closed, 90 degrees, and fully open) and does not teach away from the Sparkman reference, which teaches the same function of a plurality of stop, by using a plurality of grooves.

20. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

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the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine Cherry and Sparkman is to provide a plurality of stops to have more than one "fully open" positions as recognized by Cherry in lines 20-22 of Col. 1. Cherry teaches that having a plurality of stop positions is desirably for a refrigerator door (Col. 1, lines 19-23). Cherry does not expressly disclose 4 stop positions as is claimed in this application, but specifically indicates the desirability of four stop positions of closed, 90 degrees, 130-140 degrees, and a fully open position of 180 degrees (Col. 1, lines 23-30). Both Cherry and Sparkman use grooves as a means to bias the door to achieve various door positions. The structure of Sparkman would allow for more positions to be added to the structure of Cherry.

21. The applicant's acknowledgement of the incorrect domestic priority has been received and the error has been corrected. There currently is no listed domestic priority involved in this application.

### **Conclusion**

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy M. Ayres whose telephone number is (571) 272-8299. The examiner can normally be reached on MON-THU 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on (571) 272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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